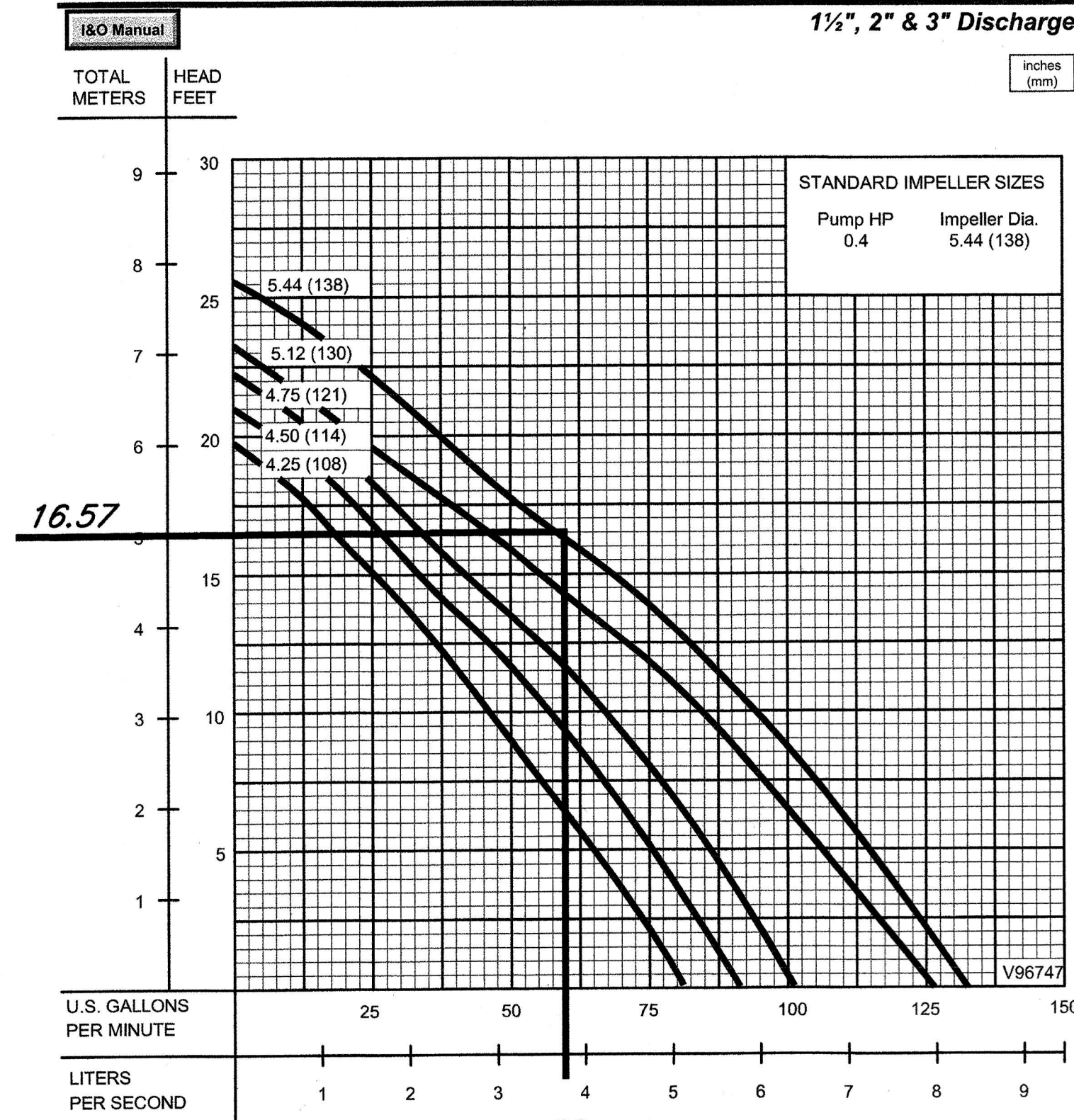


1500 GALLON PUMP TANK
10'16" x 5'0" x 7'40" G.C.F.=378.99 G/FT.
LEACH SYSTEM DOSE:
440 S.F. x 0.0033' = 1.48 G.C.F.=279.1 G/L
279.0 G / 378.99 G/FT. = 0.73 FT.
TOTAL DYNAMIC HEAD
SOURCE: 165.7' - 151.0' = 14.7'
FRICTION: AT 80 G.P.M.
(48' FORCE MAIN) x 0.48 x 5.94/100' = 1.34'
VELOCITY: (172) 20' = 5.85'20/64.4 = 0.53'
T.D.H. = 14.7' + 1.34' + 0.53' = 16.57'
USE: BARNES SE411 PUMP WITH 5.44" IMPELLER

BARNES®
www.cranepumps.com

Series SE-411/421
Performance Curve
4HP, 1750RPM, 60Hz
1 1/2", 2" & 3" Discharge



Testing is performed with water, specific gravity 1.0 @ 68° F @ (20°C), other fluids may vary performance

CRANE
A Crane Co. Company

PUMPS & SYSTEMS

USA: (937) 778-8947 • Canada: (905) 457-6223 • International: (937) 615-3598

SECTION 1B
PAGE 3
DATE 3/13

- 1) PUMP SHALL BE BARNES MODEL SE411 SUBMERSIBLE PUMP WITH 4/10 H.P. 115 VOLT MOTOR, PUMP CAPABLE OF PUMPING 60 G.P.M. AGAINST T.D.H. OF 16.57 FEET AND PASSING 1 1/2" SOLIDS.
- 2) PUMP CONTROL PANEL SHALL BE PLACED IN AN ACCESSIBLE PLACE INSIDE DWELLING. RHOBUS TYPE 112 WITH ALARM PACKAGE.
- 3) LIQUID LEVEL CONTROL AND ALARM SWITCHES SHALL BE SINGLE PHASE, SIMPLEX PUMP CONTROL/ALARM SYSTEM.
- 4) PANEL SHALL BE EQUIPPED WITH AN AUTO OFF MANUAL SWITCH, PUMP ACTIVATION LIGHT (OPERATION LIGHT) AND VISUAL AND AUDIO HIGH WATER ALARM.
- 5) ALARM SHALL BE POWERED BY CIRCUIT DIFFERENT THAN THAT OF OPERATING PUMP.
- 6) BEFORE SYSTEM IS PUT INTO OPERATION, CHECK AND ADJUST LEVEL CONTROLS.
- 7) PRECAST CONCRETE PUMP CHAMBER WITH 437 GALLON CAPACITY BETWEEN TURN ON AND TURN OFF LEVEL.
- 8) ALL JOINTS IN FORCE MAIN TO BE CEMENTED AND PRESSURE TESTED.
- 9) INSTALL CHECK VALVE, COMPANION FLANGE AND WEEP HOLE INSIDE PUMP CHAMBER.
- 10) PIPE TO BE LAID AT A CONTINUOUS UPHILL SLOPE TO AVOID POCKETS OF SANITARY SEWAGE FROM POSSIBLE FREEZING.
- 11) PUMP CHAMBER TO BE VENTED.

27848/322
JULIA M. NAULT & DAVID F. DOYLE
LOT 4 ON PLAN 8938/END
ASSESSOR'S MAP 45, PARCEL 30

I CERTIFY THAT I AM CURRENTLY APPROVED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION PURSUANT TO 310 CMR 15.017 TO CONDUCT SOIL EVALUATIONS AND THAT THE ABOVE ANALYSIS HAS BEEN PERFORMED BY ME CONSISTENT WITH THE REQUIRED TRAINING, EXPERTISE, AND EXPERIENCE DESCRIBED IN 310 CMR 15.017. I FURTHER CERTIFY THAT THE RESULTS OF MY SOIL EVALUATION, AS INDICATED ON THE ATTACHED SOIL EVALUATION FORMS, ARE ACCURATE AND IN ACCORDANCE WITH 310 CMR 15.100 THROUGH 15.107.

SIGNATURE: *[Signature]*

DATE: *Dec 22, 2021*

ZONE: RA

MINIMUM SETBACKS:

FRONT = 40'

SIDE = 25'

REAR = 50'

MIN. FRONTAGE=160'

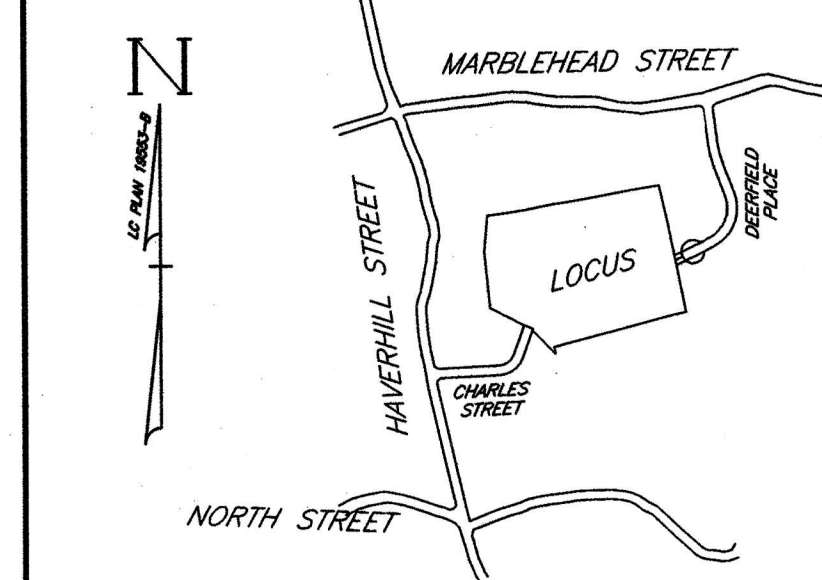
MIN. LOT AREA=40,000

LEGEND OF SYMBOLS & ABBREVIATIONS:

• 100.0	EXIST. SPOT ELEVATION	■	TEST HOLE
— 100 —	EXIST. CONTOUR	■	PERC TEST
100.0	PROP. SPOT ELEVATIONS	⊗	DRAIN MANHOLE
— 100 —	PROP. CONTOURS	⊗	CATCH BASIN
— TP —	PROP. WATER SUPPLY LINE	⊗	WATER SUPPLY WELL
⊗ MW	TEST HOLES BY MERRIMACK ENGINEERING		
— CC10 —	PROP. INSPECTION PORT/MONITORING WELL		
— W —	EDGE OF B.V.W.		
— W —	100' BUFFER ZONE		
— W —	PROPOSED WATER LINE		
⊗	EXISTING HYDRANT		
⊗	EXISTING TRANSFORMER		
⊗	EXISTING ELECTRIC MANHOLE		
⊗	EXISTING STREET LIGHT		

BENCHMARK REFERENCE DATUM:

TOP OF IRON PIPE. ELEV.=157.68'
SPIKE IN 15" MAPLE ELEV.=161.20'
SPIKE IN 14" PINE ELEV.=164.91'



LOCUS MAP
SCALE: 1"=1000'

BUFFER ZONE
4,332 S.F. BUFFER ZONE
BUFFER ZONE DISTURBANCE
3880 S.F. BUFFER ZONE
3880/4332=89.5% DISTURBANCE

1002 S.F. D'WAY
1002 S.F. TOTAL IMPERVIOUS
1002/4,332 = 23.1% IMPERVIOUS

Prepared For:

Owner / Applicant
Greene Construction Co.
520 Main Street, Suite B
Middleton, MA 01949
Map 46 Lot 100
A=42,646 s.f.

Prepared By:

[Signature]
Hayes Engineering, Inc.
603 Salem Street
Wakefield, MA 01880
Ph: 781.246.2800
Fax: 781.246.7596
www.hayeseng.com

Design By: gr

Drawn By: gr

Checked By: pjo

Project File: NOR-0185 i

Comp. No: NOR66

☐ Issued For Permit

☐ Issued For Review

☐ Issued For Bid

☐ Issued For Construction

☐ Not For Construction

No.	Revision	Date
1	11-23-2021	
2	2-3-2021	
3	6/10/2013	
4	11-23-2021	
5	11-23-2021	
6	11-23-2021	
7	11-23-2021	
8	11-23-2021	
9	11-23-2021	
10	11-23-2021	

Scale: 1"=20'
0' 10' 20' 40'

Drawing Title:

Sanitary Disposal System Plan
Lot 1
6 Charles Street
No. Reading, Mass. 01984

Drawing No.:

PL

SHEET 1 OF 2

